DOCUMENT RESUME

ED 388 724 TM 024 199

AUTHOR Niyogi, Nivedita S.
TITLE The Intersection of Instruction and Assessment: The Classroom.
INSTITUTION Educational Testing Service, Princeton, NJ. Policy Information Center.
PUB DATE Mar 95
NOTE 27p.
PUB TYPE Viewpoints (Opinion/Position Papers, Essays, etc.) (120)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Classroom Techniques; *Communication Skills; Cultural Awareness; Documentation; *Educational Assessment; Educational Policy; Elementary Secondary Education; Instructional Effectiveness; *Portfolios (Background Materials); Professional Development; *Teaching Methods; Test Results; Test Use
IDENTIFIERS *Alternative Assessment

ABSTRACT

Educators and educational policymakers increasingly express the belief that assessment should not be used merely to judge how much students know, but also to illuminate the nature of their knowledge and understandings in order to help them learn. The role of classroom-based assessment in this process is explored considering such forms of alternative assessment as portfolios, naturalistic assessment, and documentation. The road to assessment reform begins and ends in the classroom. A few important points in the intersection of instruction and assessment are noted. It is critical to understand and respect local culture and to build on the experiences of teachers, administrators, and parents in the local community. It is also essential to provide teachers with opportunities to develop as professionals so that they can expand their subject matter and teaching expertise and exchange ideas and experiences. It will also be vital to explore and develop a variety of ways to communicate assessment results, aggregating information at different levels for different users. (Contains 16 references.) (SLD)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED 388 724

A POLICY ISSUE PERSPECTIVE

TM024199

ETS Educational Testing Service
POLICY INFORMATION CENTER

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☑ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
R. Coley
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)"

The Intersection of Instruction and Assessment: The Classroom

by Nivedita S. Niyogi

BEST COPY AVAILABLE

The Intersection of Instruction and Assessment: The Classroom

By

Nivedita S. Niyogi
Educational Testing Service

March 1995

ETS
Policy Information Center
Princeton, NJ 08541

Copyright © 1995 by Educational Testing Service. All rights reserved.

Table of Contents

	Page
Preface	i
Acknowledgments	i
Introduction	1
Purposes for Assesment	4
Defining Our Terms	5
Assessment as Teacher Development	8
The Powers of Documentation	10
Challenges Ahead	17
Resources	20

The views expressed are those of the author, and the researchers whose work she reports.

Preface

Nivedita S. Niyogi draws on Educational Testing Service (ETS) research that indicates how assessment can be used to support classroom instruction. She puts this work in the context of recent theory and proposals to change the nature of testing and assessment. Using the results of this classroom-based research, the author also outlines some of the challenges that lie ahead.

Ms. Niyogi's work on classroom assessment is published here in the Policy Information Center's Policy Information Perspective Series, which encourages a combination of analysis and professional perspective. This work is also the foundation for another ETS publication now in press, an issue of *Focus*, entitled *Expanding the Power of Classroom-Based Assessment*, which is addressed directly to teachers, to help them adopt documentation and portfolio methods in their classroom.

Paul E. Barton
Director
Policy Information Center

Acknowledgments

Ted Chittenden, Jacqueline Jones, Drew Gitomer, Margaret Jorgensen, and Roberta Camp generously shared their time, work, knowledge, and insights with the author. Lynn Jenkins provided a much needed sounding board and reviewed the first draft. Karen Sheingold also provided a thoughtful review.

Albert Benderson edited the report, and Carla Cooper provided the desktop publishing services.

The author also wishes to acknowledge Paul Barton for his continued patience and support.

Introduction

Classroom: the word conjures up images of rows of desks where, as children, we were asked to sit quietly, to pay attention to the big person at front of the room, to raise our hands before speaking, and to refrain from socializing with the little people around us. It conjures up the sound of chalk against the blackboard and the smell of filings from recently sharpened pencils, and it makes us think of other words like teacher, homework, worksheet, textbook, pop quiz, recess. The classroom remains in our minds as a world unto itself, a distinct culture governed by its own laws.

A world where some of us chose to quietly sit in the back and others became the class clown or teacher's pet—it's where we found out that we were good at math or spelling or that we were bad at science or geography. From our own memories and individual experiences as learners, each of us can recall successes and failures—we can recall the people and circumstances that enabled us to learn, to acquire knowledge in a meaningful way, and we can recall obstacles that prevented us from understanding algebra or grasping some assignment we were given.

Most of us have strong opinions about education, about teaching and learning, because it is something we have all been through and can identify with—certainly as students, but also perhaps as parents or as educators. Furthermore, Darling-Hammond (1989) asserts, "a more highly educated populace has greater expectations of schools, and a more knowledge-oriented economy raises both the costs and benefits of school success or failure. Today, schools are being held to account by politicians, the general public, [businesses], and parents for results they should be expected to produce and, often, for results over which they have little or no control."

When discussions about education and education reform veer away from the daily activities of the classroom, we lose sight of the most important stakeholders in education—the learners.

These increased expectations bring numerous new and important issues into the educational arena. From concerns about the pervasiveness of drugs and violence in our society to school choice, multiculturalism, and the rhetoric of national education goals, the arena is jammed with ideas and demands from all sectors. However, when discussions about education and education reform veer away from the daily activities of the classroom, we lose sight of the most important stakeholders in education—the learners (stu-

dents, children). Standing at the intersection of instruction, assessment, and accountability is the learner. If we recognize this basic fact, then we are compelled to direct our attention to the classroom, for "the classroom is the hub of teaching and learning" (Perrone, 1991).

Standing at the intersection of instruction, assessment, and accountability is the learner.

Communicating effectively with students, gathering information for instructional decision making, gauging student progress—the difficulty of pinpointing why a student struggles with certain material or modes of learning and succeeds with others. These remain the ongoing challenges of the classroom, challenges that teachers encounter everyday.

Assessment is an important, and necessary, tool for meeting these challenges. Vito Perrone, Director of Teacher Education at the Harvard Graduate School of Education, states that, "student evaluation is basic to student growth," but he also points out that much of what currently passes for evaluation "doesn't get particularly close to student learning" and that test scores do not necessarily provide teachers or policymakers with the type of information they need.

Vivian Wallace, a teacher from Central Park East I (CPE I) Elementary School in New York City, expresses part of the problem from the teacher's vantage point. Describing how assessment practices have changed at CPE I in the past two decades, she says that teachers used to view assessment "as something formal and rigidly standardized. . .a mandate from afar, implemented mechanically, and distant from the needs of teachers and children alike" (Chittenden and Wallace, 1992). Although this perception of assessment has changed at CPE I, where teachers now employ a variety of classroom-based evaluation methods, for many teachers, assessment continues to be something that is externally imposed and separate from their daily instructional practice.

"The bargain that has often been struck is that teachers are responsible for instruction in the classroom, and that someone else—the district, the supervisor of curriculum—is responsible for assessment, which is shaped outside the classroom" (Camp, 1992).

However, the classroom is rich with assessment opportunities, and by taking advantage of (or exploiting) these opportunities, teachers, parents, and policymakers gain valuable insight into student learning.

However, the classroom is rich with assessment opportunities, and by taking advantage of (or exploiting) these opportunities, teachers, parents, and policymakers gain valuable insight into student learning. Furthermore, as teachers become more involved in shaping assessment—in examining

the various types and purposes of assessment—they also gain a better appreciation of how it informs instruction and affects the larger community of the school or district. Describing the transformation of assessment practices at CPE I, Chittenden and Wallace write about how record keeping, including observational notes and collections of children's work, increased teachers' awareness. "We began to see that the records of classroom life constitute the point of departure for evaluation—whether regarding the progress of a child, the curriculum of the classroom, or the functioning of a school. . . Changes in assessment methods need to grow out of classroom experiences and discussions with colleagues."

Increasingly, among educators and policymakers alike, there is a belief that assessment should be used not simply to judge how much kids know but to illuminate the nature of their knowledge and understandings in order to help kids learn.

Increasingly, among educators and policymakers alike, there is a belief that assessment should be used not simply to judge how much kids know but to illuminate the nature of their knowledge and understandings in order to help kids learn. "Testing is seen as being less about sorting and selecting and more about offering information on which students and teachers can build" (Glaser and Silver, 1994). Common sense tells us that on-going, classroom-based assessment can serve this purpose. Teachers interacting with students will observe the nuances of their cognitive growth and development over time, their individual strengths and weaknesses in ways that would be extremely difficult, if not impossible, to capture through standardized or conventional testing alone.

As we think about assessment—our purposes for assessment and our uses of assessment—we must also define our expectations for students, for teachers, for schools and districts, and for the nation. We need to think carefully and deliberately about what kind of information we need from assessments. To paraphrase Corrine Hill (1991), we must question our educational goals and then develop assessment methods to support these goals remembering that the challenge is to improve children's learning, not children's test scores.

In the following pages, we take a closer look at the role of classroom-based assessment in this continuing challenge facing teachers—and the wider education community.

Purposes for Assessment

On any given day, in any given American school, one can find some form of evaluation taking place. Traditionally, this evaluation or assessment translates into tests—either conventional classroom tests with teacher-made questions or large-scale, standardized tests with multiple-choice questions. Two major types of tests for two purposes: guiding classroom instruction and monitoring school accountability.

Conventional wisdom used to be that assessment for these two distinct purposes should be kept in separate compartments, but in recent years, educators and reformers have begun to recognize the problems that arise from the disjuncture between large-scale assessment and ongoing classroom instruction and assessment. There is widespread concern that, with the proliferation of standardized testing in the past few decades, externally mandated testing for accountability purposes is not only impinging on classroom time but also adversely affecting instructional priorities. (Camp, Glaser and Silver, Perrone, Resnick and Resnick)

According to recent estimates, American students take 127 million state and/or district mandated, standardized tests annually—this averages to about three tests per year per student. Administrators and policymakers use these test scores to monitor how well students are doing in a given subject in comparison to their peers; frequently, these scores are used as the basis for critical decisions that influence not only schools, but also individual students. Consequently, teachers are under pressure to prepare their students to do well on high stakes, large-scale achievement tests that are "fundamentally measures of recall and recognition" (Glaser and Silver, 1990). The discrete tasks of most standardized, multiple-choice tests make it difficult to measure complex skills and abilities.

Despite the prevalence of standardized tests and the weight placed on them, there is a growing consensus that "they are narrow measures that don't do justice to the child as a developing person" (Corrine Hill, 1991). New understandings about human learning from cognitive science and educational research provide compelling reasons to seek alternative forms of assessment. Glaser and Silver write that "Cognitive research has pointed to the constructive nature of human learning, the complex nature of expertise related to specific subject areas, the power of intuitive con-

Learning is an active, continuous process of connecting ideas and information—the learner is constantly trying to make sense of new knowledge in terms of previous experiences.

ceptions, and the limitations of school knowledge for application in nonschool settings."

This body of research tells us that learning is not a passive activity; students do not simply absorb information. Learning is an active, continuous process of connecting ideas and information—the learner is constantly trying to make sense of new knowledge in terms of previous experiences. To cultivate student learning in the classroom culture, and in our educational system, we must recognize that "Learners increase their competence not simply by accumulating new facts or skills at rates determined by relatively immutable aptitudes, but by reconfiguring knowledge structures, by automating procedures and chunking information to reduce memory loads, and by developing strategies and models that tell them when and how facts and skills are relevant" (Mislevy, 1992).

If we wish to promote critical thinking and problem-solving skills, to foster creativity and cooperative learning, and to integrate instruction among different subject areas, we must not only expand our modes of instruction, but also investigate multiple forms of assessment. As Daniel and Lauren Resnick (1989) have bluntly stated, "whether we like it or not, what is taught and what is tested are intimately related. . . . if we put debates, discussions, essays, and problem-solving into the testing system, children will spend time practicing those activities."

By broadening our definition of assessment and our conception of how it relates to instruction, we set the stage for the most basic type of educational reform—reform at the classroom level.

Defining Our Terms

In his article, "Authentic Assessment, Evaluation and Documentation of Student Performance," Edward Chittenden (1991), a senior research psychologist at Educational Testing Service (ETS), notes that it is important to take stock of language and to consider meanings we may ascribe to some critical terms—to highlight distinctions to serve as a framework for discussions. This is good advice, particularly because the rhetoric of reform is constantly expanding and adopting new terms—from descriptors such as alternative, authentic, naturalistic, and/or performance assessment to more functional terms such as portfolio and documentation.

Let's begin with the descriptive terms, which by and large attempt to distinguish these *alternative* forms of assessments from standardized, primarily multiple-choice, paper-and-pencil tests. The terms *authentic* and *performance* are often used interchangeably to describe assessments that engage students in more "hands-on" type activities and require them to create a product or construct a response. Performance assessments can encompass anything from essay questions and math problems to science experiments, speeches, and art projects.

. . . assessment is a process of gathering information to meet a broad range of evaluation needs and differs from testing in that it uses multiple indicators and sources of evidence.

Naturalistic assessment refers to evaluation that is rooted in the natural setting of the classroom and involves observation of student performance and behavior in a less structured, more informal context.

Chittenden also draws our attention to the word assessment itself. As defined in the Encyclopedia of Educational Evaluation (Anderson et al. 1975), assessment is a process of gathering information to meet a broad range of evaluation needs and differs from testing in that it uses *multiple* indicators and sources of evidence. Consequently, it is critical to remember that an assessment program by definition should employ some *breadth and variety* of strategies and procedures for observing, collecting, and evaluating student work and student learning.

So, what are some forms of alternative assessment, and how are they used? For the past several years, from individual schools to entire states, there has been increasing and widespread interest in the use of portfolio assessment. *Portfolios* are purposeful collections of student work over time in a particular subject area, and they can take many forms from a simple file folder to a computer disk.

One of the most illustrative examples of portfolio assessment is the Arts PROPEL project. Back in 1987, teachers in the Pittsburgh school district joined forces with researchers from Harvard University and ETS to develop a new system for assessing performance in writing, visual arts, and music classes. The resulting system allows teachers to monitor and evaluate students' performance over the course of a year using process-portfolios. While some portfolios only contain students' best work, in Pittsburgh portfolios also include drafts, notes, unsuccessful attempts called dead ends, and student self-evaluations. The Arts PROPEL portfolios mirror a classroom culture where the focus is on artistic develop-

ment through production, perception, and reflection. Students learn about the concepts and methods central to a subject, and they apply these ideas in their own creative projects. Then, working together, students and teachers develop standards for group and self-evaluation.

Documentation also helps teachers. . .

Documentation, a process of classroom observation and recordkeeping, is a term and a method that Chittenden and his colleagues like to use in their work in schools. The process engages teachers in recording observations and collecting work samples over time, across learning modalities, and in coordination with colleagues. Documentation also helps teachers capitalize upon assessment opportunities that occur in the day–to–day life of the classroom. Teachers have access to a great deal of information about children and often what they need is not new information but rather better ways of collecting and using what they already have.

Teachers have access to a great deal of information about children and often what they need is not new information but rather better ways of collecting and using what they already have.

Documentation can increase teachers' awareness of the possibilities for informal evaluations that teachers may not otherwise think of as "assessment." For example, records of children's conversations and samples of their writing, collected over time, reveal changes in the nature of their understandings. These kinds of informal evaluations often remain undocumented, and consequently, the potential for assessment programs that build upon teachers' classroom practices often remains untapped.

Chittenden believes that documentation procedures underscore the importance of inquiry and reflection in both teaching and evaluation. Teachers record and listen to children's discussions. They collect samples of student work in a variety of media, and then review and discuss these multiple forms of evidence in meetings with their colleagues. Documentation in many ways is more akin to research than educational evaluation because it calls for an inquisitive mindset; teachers look not just for information about a particular child, but moreover for information about the general nature of children's learning and modes of expression.

"Documentation can be seen as a first step in the development of an alternative assessment," Chittenden says.

"Documentation can be seen as a first step in the development of an alternative assessment," Chittenden says. "After you have been engaged in that process, you can then develop procedures that are more test like." Some portfolio projects have followed this course.

"For example, in South Brunswick, New Jersey, my colleagues and I have been working with teachers who are going to use what they've learned through their experiences with documentation to design a set of embedded instructional assessment activities in their own science units."

"In documentation your first concern is not 'Is this kid where she ought to be?' Your first question is 'What's this kid up to?' But when you're evaluating as teacher or parent, your question is more along the lines of 'Is this kid coming along, is she learning the sort of things we want her to learn?' Now you've crossed the line from inquiry into evaluation, from documenting into assessing, and teachers need to do both."

"The problem is that in most of our school systems people feel pressure to evaluate the kids," Chittenden explains, "but they never do the first step, the inquiry. And even with some of the portfolio projects, there still can be the rush to collect stuff and score it. This may be better than just testing, but I would argue, especially in elementary education, that you need the two—documentation and evaluation—as components of assessment."

Assessment as Teacher Development

. . . while it is true that if the goals and methods of assessment are at odds with instruction they will inevitably corrupt instruction, integrating assessment with instruction to promote active models of learning and higher. order thinking skills is as complicated as it is necessary.

ETS senior research scientist Drew Gitomer, who served as a project director for Arts PROPEL, and Professor Richard Duschl from the University of Pittsburgh are currently working with the Pittsburgh public schools to develop a portfolio-based instruction and assessment system for middle-school science classes.

In their article "Strategies and Challenges to Changing the Focus of Assessment and Instruction in Science Classrooms," Gitomer and Duschl call our attention to the implications of assessment reform for teaching. They assert that while it is true that if the goals and methods of assessment are at odds with instruction they will inevitably corrupt instruction, integrating assessment with instruction to promote active models of learning and higher order thinking skills is as complicated as it is necessary.

Gitomer says that complications arise because "the rhetoric [from educational research and advocates of reform] is far ahead of current practice, and in order to restructure instruction and assessment, we have to redefine and negotiate the intellectual demands being placed on teachers."

Integrating instruction and assessment requires teachers to fundamentally shift their instructional approach, to reshape their learning environments, and to commit to making students' ideas, actions, products, and conversations, and assessments about them, the focus of the classroom. And in order to make this shift, teachers need to participate in a variety of development activities that help them expand their own knowledge, skills, abilities. They need to be able to draw upon a body of professional expertise that incorporates subject matter expertise with diverse strategies for eliciting student ideas, engaging student interest, and guiding student learning. He cautions that without extensive professional development for teachers, classroom practice will only mirror the most superficial characteristics of reform, where students engage in hands–on activities in various disciplines, such as science and writing, without the corresponding activities of reasoning and communicating within and across disciplines.

. . . without extensive professional development for teachers, classroom practice will only mirror the most superficial characteristics of reform. . .

"Disciplines pose different questions, engage different processes, have different rules of evidence, and varying forms of communications," notes Gitomer. "Unfortunately, many teachers have not had an opportunity to experience the disciplines they teach in a full sense that goes beyond the surface. If we wish to achieve a deeper and more complete context for learning, then creating opportunities for the current and future teaching population to experience the full activity of their discipline is critical to educational reform."

From his extensive experience and ongoing work with various New York and New Jersey school districts involved in curriculum and assessment reform, Chittenden concurs with the argument that assessment reform and professional development for teachers must be linked. "Teachers' powers of observation and record keeping are critical. When you're designing an alternative assessment—I don't care how glitzy it is—if you're not dealing with that fundamental question of how to help teachers become better observers, more responsive to kids, then you haven't really addressed the crux of the matter," says Chittenden. "The connection between professional development and assessment reform, especially at the primary level, is inseparable."

"The connection between professional development and assessment reform, especially at the primary level, is inseparable."

"I can argue for assessment reform, such as involving teachers in documentation activities, that is essentially a professional development activity. Now that's often a hard

thing to sell to the public or to funders because it sounds like what you're saying is that assessment is just training for teachers, and in effect that is precisely what I'm saying. By involving teachers in that closer look and study of the kids, you promote and enhance their assessment capabilities, they become better assessors," adds Chittenden.

In a similar vein, Howard Gardner, Professor of Education at the Harvard Graduate School of Education, writes about his experiences in the five year collaborative project with Harvard's Project Zero, ETS, and the Pittsburgh Public Schools. "Arts PROPEL began with a focus on assessment. We wanted to assess potential and achievement in the arts, and we hoped to move beyond the often wooden standardized instruments that been used even in domains where they are manifestly inappropriate. But as in other projects, we soon came to the realization that it is pointless to conduct any assessment unless students have acquired knowledge, skills, and understanding that are worth assessing. In short, Arts PROPEL became a project in curriculum and in teacher education, as well as a set of assessment tools" (Gardner, 1991).

The Powers of Documentation

For two days in the summer of 1994, teachers from Philadelphia, New York City, South Brunswick, and Trenton gathered together at ETS headquarters in Princeton to share their classroom experiences and their professional expertise. They brought armloads of children's drawings, paintings, logs, and journals. These teachers are collaborators in a three-year investigative project that explores young children's science learning. Funded by the National Science Foundation (NSF) and directed by Chittenden, the project employs naturalistic methods for observing, recording, and reviewing children's activities and work.

"Teachers should also be inquirers into the phenomena of the learning process."

"Teachers and researchers play different roles, but they are not mutually exclusive," says Chittenden, "Teachers should also be inquirers into the phenomena of the learning process." The complexity of running a classroom and of dealing with institutional demands can ordinarily work against inquiry and reflection. The experience of careful observation and thoughtful examination of children's learning is generally not part of the professional life of many public school teachers.

Chittenden and ETS research scientist Jacqueline Jones are working with teachers to document how elementary school children express their interests and ideas concerning the physical world. This project promotes teachers' theoretical knowledge of children's learning grounded in their own classrooms and emphasizes a collaborative process.

"Our purpose is to find out what kids are up to as they go about learning science. Much of the project work, particularly in the first year, revolved around children's language—class discussions, informal conversations, and talk. As a matter of fact, we found the children's talk so interesting that we continued to devote a lot of time to it in the second year, but we also began to look at children's artwork and other materials," explains Chittenden.

Participating teachers have been recording class discussions about topics such as "Where have you seen shadows?" and "What have you noticed about our caterpillars?" Through these discussions, teachers begin to see patterns in the children's questions and comments. Certain ideas, perceptions, and/or misconceptions emerge and provide instructional cues or a clearer sense of children's prior experiences and knowledge.

One kindergarten teacher spoke of how, through her involvement in this project, she began to see science as vehicle for teaching young children a variety of skills and integrating content. "Science is something the kids feel confident about. Water, the sun, the moon, etc.—these are things they know something about and are familiar with. Through drawings, discussions, and other activities in science, I can teach them observational skills. They have a frame of reference in science, and it's a good starting point for other areas I need to cover in class. In Trenton, I often find that my kids come to kindergarten and they don't know what colors, letters, shapes are—the material I'm supposed to cover—but through science I can hook into what they know and feel confident about," she explained.

. . . every teacher has a theory, but they are not always aware of it.

"Teachers' understanding and theoretical knowledge is pivotal and has a powerful effect in the classroom—every teacher has a theory, but they are not always aware of it. You're teaching from assumptions, and these assumptions are critical to the processes of instruction and assessment," explains Chittenden. For the teachers involved in this

project, documentation serves as a mechanism for examining their theories about teaching and learning through the tangible evidence of their own students' work.

". . . reading Piaget is one thing and having firsthand knowledge in your own classroom is another thing."

To get a feel for the promise and the potential of this type of project, we have to listen to the teachers—their spirited discussions gave ample evidence that this project is at once expanding student assessment and providing a professional development opportunity to participating teachers. As one teacher from the Bronx stated, "This project helps me as a teacher—it confirms my beliefs. It helps me see a process because through documentation I have evidence of how children see things. We see their development not just in theory but in practice—reading Piaget is one thing and having firsthand knowledge in your own classroom is another thing."

"Teachers need opportunities to be able to come together and talk not only about what's happening in their individual classrooms but also what's happening across classrooms, across grades, and, if possible through projects like this, across schools and districts," says Jones. To facilitate more intimate discussions, at certain points during the conference, the teachers from different schools and different grades were divided into small groups. Below is an excerpt from one of the small group discussions where teachers describe activities they conducted in their classes and compare notes about instructional methods.

* * *

Pam (kindergarten): As a class project, the children made ice cream, prior to this I read them a story about Mr. X and following directions.

After we the made the ice cream, I gave the kids two assignments—first the kids wrote what ingredients we used in their own language and then they made drawings of the process, the steps involved.

Lynda (kindergarten): Your kids can spell?

Pam: Most of the students can spell phonetically, but they do ask for help from time to time.

Lynda: We did a water unit, and I asked the kids, "What do we use water for?," and we talked about it, and then they each did a watercolor painting. As they were painting, I

walked around asking them what they were painting, and they were concentrating so they spoke in short fragments. It was interesting to see that nonverbal kids often express themselves best in these other mediums such as art work and do better than some of my more verbal kids. I have some kids that talk like second graders but they don't have the fine motor skills. It made me realize that kids need to express themselves in different ways.

Julie (combined grades K–2): I find that often kids will talk more if I ask them open-ended questions.

Lynda: I think this was more because I was interrupting them, and they were getting annoyed. They were basically trying to get me to leave them alone to concentrate on their paintings.

Another project we did involved writing a story as a class—we had done some things about bears, and then I had the kids make up a story together and draw pictures for it and I wrote it up for them. They loved that project—they were really proud of themselves.

One of the words in the story is market. One of the boys is from the islands and when he first said it, the other kids didn't know what it was because we would usually say supermarket or grocery store. But I left it in, and they learned a new word.

Pam: Another thing I've noticed is a change in dynamics—when kids are talking to each other they are much more gregarious but when sitting more formally in a group, talking one by one, they grow more quiet and a little nervous.

Lynne (grade 2): Videotape helps to catch informal, ongoing activity in the class.

Julie: I have 10 special ed. kids of different ages, ranging from kindergartners to second graders. We made a class cookbook. What I've noticed are some developmental differences, in terms of maturity. The five-year-olds repeat themselves a lot, they hook into one striking thing, and that's it. They'll ask the same question about different things—it becomes their way of making sense of things.

Also as we were making different recipes, the kids would light up whenever something related to their home experiences, the recognition factor was very important. If they

recognized an ingredient or a brand name, they would get excited.

One boy had his grandmother come in and make soup, and he kept asking everybody, "How do you like my soup?" He wanted to assist his grandmother at every step and do everything she was doing—brought out a real sense of pride and accomplishment.

I think in early childhood children learn and express themselves in so many different ways—emotional, verbal, visual, kinesthetic—and you have to be responsive to that. We did a taste test—all different soups and I asked the kids to really pay attention to the taste, smell, texture and then when we had a discussion about what everybody had observed—the kids were really intent on listening to each other.

Wendy (grade 1): We did our spring booklet and a water booklet—these are a combination of drawings, writing, and comments the children made to me. We discussed where does the snow go when it melts, the sun and moon, etc. Working in pairs they made crossword puzzles of water words—they said it was the hardest thing they've ever done. I gave them little dictionaries to help with the spelling. It took them a lot of time and effort.

Yvonne (grade 2): It's my first year with second graders. I've been teaching for 13 years but in the upper grades. We did a lot about animals and living things. I was amazed by the round robin discussions for all the science projects—you can see them learning to listen to each other. Kids can really tell you how they see the world.

In the beginning of the year, we used a talking stick in our round robin discussions, to take turns and wait and listen to others but by the end of year it was amazing to see how the kids had learned to control themselves and really take turns talking.

I think the Kid Talk activities [where teachers record open-ended class discussions] are very helpful and I think they made me realize, learn about myself. It makes it easier to get into the kid's minds, ideas.

Kid Talk was great but as I heard myself [on tape], I realized what a horrible teacher I was. It was like 'shut up, Yvonne', just shut up and listen to them!! So it also made me more aware of how I was interacting with kids, helped me to be a better teacher.

The other thing that working on this project really makes you realize is that you have to cover topics more than once and make connections and go back to things, otherwise the kids forget it—you have to spend time on things.

For me it was really a learning experience to work with these second graders, it's so different. By the time I used to get kids in the fourth grade they had already been taught that children should be seen and not heard. The other thing that working on this project really makes you realize is that you have to cover topics more than once and make connections and go back to things, otherwise the kids forget it—you have to spend time on things.

Tracey (substitute): I worked with kids from all different grades, and I used a lot of music and movement with the kids. I also used folktales and the kids would just light up, you could see their eyes get real big.

The kids really enjoyed doing hands-on things where they could touch and feel and really have a sense of ownership. We made butter, and we did an apple experiment that they really got excited about. We cut open these apples and left them on the window sill. At one school, I asked the kids to do drawings of living things on the playground, and I asked them how do you know they're alive.

It was interesting to see the different things that appealed to different age groups. With the kindergartners I'd use this Disney-like voice, and it would hypnotize the kids, but the second graders preferred a more hip hop/rap style.

[**Chittenden** raised the issue that while there is merit to open-ended questions and activities, kids often need structure, boundaries. Beginning teachers need models to structure activities and kids respond to a certain degree of structure.]

Jerri (combined grades 1–2): Children naturally tend to team up and help each other, go to each other. When we were doing shadows and light you could listen to the kids trying out their ideas on each other and trying to make sense of things.

One of the kids said, 'when you die, your shadow dies,' but then another kid said, 'no if they lift your coffin, there will be a shadow!'

We also studied life cycles and the kids each had a caterpillar in a jar to observe and keep a journal about. We also used Dan's data sheets (a running series of drawings and facts).

I think we have to remember that, in science, adults have a lot of misconceptions and what kids hear from "authority" figures influences them.

Lynne: This is my first year with a single age class. I have all second graders. We started out with shadow and light. The first assignment I gave the kids was to tell me what you know and draw a picture. I wanted to see what they thought. Then we went out to the playground several times during the day and traced shadows—each time the kids stood in the same place and noted the change of position, size, and direction of the sun in relation to the shadow. Also in the back of the class, I set up a lamp and a construction paper figure so the kids play with the light source and decipher a relationship.

I think we have to remember that, in science, adults have a lot of misconceptions and what kids hear from "authority" figures influences them. I even see it if one kid in class talks with a lot of confidence and is assertive, the others believe him and will start nodding their heads in agreement.

* * *

Every school district is like a foreign culture.

"It's fascinating when we have these NSF conferences to watch these teachers from very different places come together and talk, because their worlds are very different," says Jones. "There are a lot of forces that impinge on the day-to-day life of teachers, a lot of variables affect what happens in the classroom—the level of support from administrators and the community for doing different things, the resources teachers have available to them, the level of autonomy, the diversity of the student population, and so on. Every school district is like a foreign culture."

"For example, there is a videotape of a conversation in a K-1 class in New York at Central Park East. That shows a great deal of student discussion. When people see the tape, they are often amazed that children that young can listen to each other," Jones explains. "That's the kind of culture that has been carefully created in the classrooms at Central Park East. Now, if we take that videotape to a very different school, they may ask where is the teacher, and why isn't the teacher teaching?"

Later in the conference, the teachers set up galleries of student work. After viewing the work from each other's classes, they shared their observations about the nature of different projects and how students responded to them. For instance, in a project where first graders were asked to draw a picture, write a sentence, and tell their teacher where the

rain goes, in most cases, what the children said was much more revealing than what they wrote. One teacher also pointed out that a great deal of testing begins in first grade and the children get worried about what's right and wrong when they are given an assignment.

On the second day of the conference, Chittenden and Jones gave out green sheets asking the teachers to reflect on the work they had been conducting in their classrooms and to give specific examples of how documentation has affected their instruction. As the teachers went off to fill out their green sheets, they were talking to each other about how the documentation process had made them more reflective and thoughtful. They spoke of how it broke them away from rigid unit structures and helped them realize how imperative it was for their students to make connections. It made them realize that teachers have to go back to things throughout the year, and they can't assume that at the end of x number of weeks every kid will know a given set of things.

In this, the third and final year of the project, Chittenden and Jones will be working with the participating teachers to develop materials and procedures that can be used by other schools and by teacher education programs for the study of children's learning.

"Educational assessment is currently in the process of invention—Old models are seriously being questioned. New models are in the process of development."

Challenges Ahead

In 1992, Joan Herman wrote, "Educational assessment is currently in the process of invention—Old models are seriously being questioned. New models are in the process of development. Everyone is talking about it. Everyone is advocating it. Lots of people are trying it. No one really knows how to do it. We are truly inventing the future as we go along." In 1995, that statement continues to serve as an accurate status report from the assessment front.

There are many more questions to be asked, explored, and, eventually, answered about assessment reform—and its implications for various stakeholders in our educational system. And, while it is true that we are in the process of invention, which involves quite a bit of trial and error, it is also true that we are not in completely uncharted territory—especially if we keep our eye on the classroom.

If we listen to the educators and researchers who are implementing change at the local level, we may begin to have a better idea about what types of questions we should

be asking. "If assessment for instruction grows into or informs assessment for accountability, it forces us to pay more attention to what's happening inside the classroom and to improve it. We will have a system where the learning process drives instruction instead of the testing process. It will help to keep our priorities in order," says Chittenden. And it will help us to remember that learners are the most important stakeholders in education.

. . . we have to learn about the local culture—this means building in time for inquiry that will subsequently inform and shape instruction and assessment decisions.

The long and winding road to assessment, and perhaps more importantly, education reform, begins and ends in the classroom. What follows are a few guideposts from the intersection of instruction and assessment:

- *Understand and respect local culture.* It is critical to remember that before we can implement change or reform in a classroom, school or district, we must have a clear picture of where we are and what we're dealing with in terms of available resources, prevalent attitudes, beliefs, values, community expectations, and so forth. In other words, we have to learn about the local culture—*this means building in time for inquiry* that will subsequently inform and shape instruction and assessment decisions.

  No single model for implementing reform is going to work in all classrooms, schools, or districts. In order to foster a classroom culture that builds on the varied knowledge and experiences students bring with them, we must build on the knowledge and experiences of teachers, administrators, and parents in our local communities.

Educational reform and professional development ought to be inextricably bound together.

- *Provide teachers opportunities to develop as professionals—to expand their subject matter and pedagogical expertise as well as to exchange ideas and experiences.* Educational reform and professional development ought to be inextricably bound together. If we wish to reduce the gap between rhetoric of reform and classroom practice, we must invest in teacher development. This is not only a matter of creating more time for professional development but also of using the available staff development/inservice time in new and different ways that support new modes of instruction and assessment in the classroom. For example, teachers need time to collectively think about how to establish criteria for student work and how to judge quality as instruction and assessment become more entwined.

Teachers also need opportunities to engage in professional discourse.

Teachers also need opportunities to engage in professional discourse—to share and learn from each other's classroom experiences, to review and discuss student work, and to examine their views on teaching and learning. We need to create forums for these discussions that, at minimum, cut across grades and, ideally, cut across schools and districts.

- *Explore and develop a variety of ways of communicating results.* We must remember that by definition an assessment program should employ a breadth and variety of strategies and methods for the collection and evaluation of student work to meet a variety of needs. If we believe that conventional testing and test scores alone will not suffice, and if we are committed to exploring new modes of instruction and assessment to improve student learning, then we must also explore new methods of communicating about student work.

  If we pursue more authentic and naturalistic forms of assessment, discussions about student work become more grounded in actual classroom products. Teachers, administrators, and parents can focus on the more qualitative aspects of student learning and achievement, and there may be less debate about numbers and scores.

  Obviously, the level of detail that is useful for classroom practice and informative for students and their parents would be burdensome for policymakers and public accountability purposes. We will still need to aggregate different levels of information for different audiences, depending on whether we're discussing an individual, a class, or a district. The challenge is to distill the information in a meaningful way for the needs of various stakeholders and decisionmakers without diminishing our classroom goals and priorities.

Resources

Airasian, P. (1991). *Classroom assessment.* New York, NY: McGraw-Hill.

Camp, R. (1992). Assessment in the context of schools and school change. In H. Marshal (Ed.), *Redefining student learning: Roots of educational change.* Norwood, NJ: Ablex.

Chittenden, E. (1990). Young children's discussions of science topics. In G. Hein (Ed.), *The assessment of hands–on elementary science programs.* Grand Forks, ND: University of North Dakota.

Chittenden, E. (1991). Authentic assessment, evaluation, and documentation of student performance. In V. Perrone (Ed.), *Expanding student assessment.* Association for Supervision and Curriculum Development.

Chittenden, E. & Wallace, V. (1992). Reforming school assessment practices: A case in point.

Darling-Hammond, L. (1989). Accountability for professional practice. *Teachers College Record*, 91(1).

Gardner, H. (1991). *The unschooled mind: How children think and how schools should teach.* New York, NY: BasicBooks.

Gitomer, D. (1994). Learning by doing what? *American Educator*: October-December, 1994.

Gitomer, D. (1993). Performance assessment and educational measurement. In R. Bennet & W. Ward (Eds.), *Construction versus choice in cognitive measurement.* Hillsdale, NJ: Lawrence Erlbaum Associates.

Glaser, R. & Silver, E. (1994). Assessment, testing, and instruction: retrospect and prospect. In L. Hammond (Ed.), *Review of Research in Education, Volume 20.* Washington, DC: American Educational Research Association.

Herman, J. (1992). What's happening with educational assessment? UCLA Center for the Study of Evaluation, CRESST, and SERVE.

Hill, C. (1991). Foreword. In V. Perrone (Ed.), *Expanding student assessment.* Association for Supervision and Curriculum Development.

Mislvey, R. (1992). *A Framework for studying differences in multiple-choice and free-response test items.* Educational Testing Service.

Nardi, W. (1991). ETS lends its expertise to school-based efforts to develop new forms of student assessment. *ETS Developments,* XXXVII(1).

Perrone, V. (Ed.). (1991). *Expanding student assessment.* Association for Supervision and Curriculum Development.

Resnick, L. and Resnick. D. (1989). Tests as standards of achievement in schools. In *The uses of standardized tests in American education: Proceedings of the 1989 ETS invitational conference.* Educational Testing Service.